Rickwood Fire
BURNED AREA REHABILITATION PLAN
Big Branch Marsh National Wildlife Refuge
August 2006

Rickwood Fire Burned Area with resprouting Chinese tallow trees

UNIT: Big Branch Marsh NWR, Southeast Louisiana Refuge Complex

LOCATION: Slidell, St. Tammany Parish, Louisiana

FIRE DATE: 08/02/2006

FIRE SIZE: 120 acres FWS lands

PREPARED BY: Mark Jamieson
US Fish and Wildlife Service
Southeast Louisiana Refuges Complex
Fire Management Officer

Submitted By: _____ Date: _____
Mark Jamieson, BAER Team Leader, Big Branch Marsh NWR

BURNED AREA REHABILITATION PLAN REVIEW AND APPROVAL

I. Project Leader approval that the Burned Area Rehabilitation Plan meets approved land management plan management objectives**.**

Project Leader, Southeast Louisiana Refuges Complex Date

II. Regional Fire Management Coordinator concurrence that the plan fits the technical definition for use of Rehabilitation finding.

Regional Fire Management Coordinator, Region 4 Date

III. Rehabilitation Funding Approval (check one box below):

☐ Approved

☐ Approved with Revision (see attached)

☐ Disapproved

Regional Director, Region 4 Date

IV. Rehabilitation Funding Approval (check one box below):

☐ Approved

☐ Approved with Revision (see attached)

☐ Disapproved

National Office Date

EXECUTIVE SUMMARY

Introduction

This Burned Area Rehabilitation Plan has been prepared in accordance with Department of Interior and US Fish and Wildlife Service (FWS) Policies. This plan provides recommendations for all lands burned within the Rickwood Fire perimeter which lies within the Big Branch Marsh NWR administered by the FWS. The primary goals of the Rickwood Fire Burned Area Rehabilitation Plan are:

- Utilize integrated management activities to improve lands unlikely to recover naturally from severe wildland fire damage by emulating historic ecosystem structure, function, diversity and dynamics according to approved management plans.
- Restore or establish healthy, functioning ecosystems, even if these ecosystems cannot fully emulate historic or pre-fire conditions as specified in the approved management plans.
- Enhance native tree species colonization and promote the reestablishment of the natural slash pine ecosystem by replanting native tree species that were killed by the fire.

This Plan addresses rehabilitation treatments recommended by the assessment team. Following control of the wildfire, an ad hoc Burned Area Assessment Team made up of the Refuge Manager, Fire Management Officer and Regional Fire Ecologist assessed damages caused by the wildfire. Of most concern was damage caused to the remaining southern pine trees that survived impacts from Hurricane Katrina that provided habitat for the endangered Red-cockaded Woodpecker and the re-sprouting of the invasive Chinese tallow tree which reduces the potential for the regeneration of native slash pine tree seedlings.

The Burned Area Assessment Team conducted on-site observations and noted damages. A Burned Area Assessment Report is given in Appendix I. The individual rehabilitation treatment specifications, including treatment implementation and effectiveness are identified below in Part F. A summary of the costs can be found in Part E. Appendix II contains the National Environmental Policy Act (NEPA) compliance documentation summary. Appendix III contains Burned Area Maps. Appendix IV contains photo documentation of the wildfire. Appendices V, VI and VII contain supporting documentation.

Fire Background

The Rickwood Fire was located on the Salmen Tract of the Big Branch Marsh National Wildlife Refuge on FWS refuge lands. The Rickwood fire ignited on 2 August 2006 at approximately 0900 CST on refuge lands. The ignition source is unknown. On August 2, 2006 the State of Louisiana had two dozers plowing a fire break around the fire at that time. Indirect lines were made north of a logging road that served as the northern boundary of the fire. Incident Commander Gray (IC Gray) arrived on scene around 1500 hrs. Upon reconnaissance of the fire IC Gray immediately ordered a Type 3 helicopter, one tractor plow unit, and one marsh master to relieve the state resources from the fire. The weather observations at the time were temperatures of 94 degree F, relative humidity of 46 percent, and light and variable winds predominately from the south to southwest. Fuel moistures were low resulting from an extended period of dry conditions previously with 100-hr fuels of 17 % fuel moistures and 1000-hr fuels of 30 %. At this time the fire was burning in heavy fuels from hurricane debris and downed trees. Flame lengths were reported to be 20-25 ft with moderate rates of spread. Given the high temperatures, low humidity and poor access into the site, initial actions were through an indirect attack. A burn out

operation was performed during the first burn period (the night of 9/3/06) and allowed to burn intensely through the night. Wind direction varied and switched to predominately southwest winds which pushed the fire spread and smoke towards the railroad and the adjacent subdivision. The second day the helicopter arrived and a reconnaissance was completed from the air. The north fire line along the logging road was utilized to complete burn out operations. A thunderstorm came across the burned area that afternoon and resources were removed from fire line. Following the thunderstorm the wrack line along the railroad was still burning and on the third day the helicopter was used to provide water drops on the fire (9/4/06). There were significant flames observed throughout the burned area on 9/4/06 and direct attack operations were conducted on the fire at this time. By 1330 on 9/4/06 another significant rain event occurred and dropped almost an inch of rain over the wildfire. After this event the helicopter and the remaining resources began to demob off the wildfire. From August 4-10 over 4.5 inches or rain fell in the area.

Prior to the wildfire, extended drought, warm weather and heavy fuels resulting from Hurricane Katrina increased fire behavior causing the fire to move through 168 acres of the Salmen Tract. The fire burned through heavy piles of debris left by Hurricane Katrina that was deposited on the boundary between the forest and the marsh habitats within the Salmen Unit. Approximately 120 acres of southern pine forest and 68 acres of marsh were burned with a moderate to high severity across the unit. Where heavy pockets of debris and fuels occurred, the severity was greatest. Prior to Hurricane Katrina 37 Red-cockaded Woodpecker cavity trees were documented in the Salmen Unit making up over half the cavity trees present on the entire Big Branch Marsh NWR. Following the hurricane a significant effort was made to establish insert boxes as artificial nesting cavities for the RCW. Inserts had been placed in the area where the Rickwood Fire Burned with most of the insert trees in the burned area killed after the fire, leaving a significant need for rehabilitation of the habitat for Red-cockaded Woodpeckers.

This Rehabilitation Plan will address the application of a chemical treatment to control the re-sprouting potential of the invasive Chinese tallow tree and replant native slash and longleaf pine tree seedlings in an effort to restore Red-cockaded Woodpecker habitat on the Salmen Tract.

Fire Damages and Threats to Human Safety and Natural Resources

The current burned area poses no additional threat to human safety or cultural resources in the area beyond the damages caused by Hurricane Katrina. However, there was a significant impact caused by the wildfire to both forest and endangered wildlife resources on the Salmen Tract as a result of the Rickwood Fire. Native southern pine trees that could have served as seed trees for natural regeneration of the forest were lost to the wildfire. In addition, increased re-sprouting of the invasive Chinese tallow tree will suppress any regeneration of tree seedlings through competition and shading effects.

The fire also impacted the wildlife resources, particularly the endangered Red-cockaded Woodpecker. Prior to the hurricane, almost half the number of Red-cockaded Woodpecker cavity trees on the refuge occurred on the Salmen Tract. While most cavity trees were lost due to salt water intrusion and wind damage from the hurricane, insert boxes were installed into remaining trees after the hurricane within the Salmen Tract for Red-cockaded Woodpecker recovery. Following the wildfire, some of the insert trees are dead and there are no live trees available for additional insert replacement.

Management Requirements

Big Branch Marsh NWR is over 17,000 acres and includes both marsh and forested lands along Lake Pontchartrain in Southeast Louisiana. The habitats on the refuge includes two primary habitat types marsh and pine forests dominated by slash and loblolly pine, with some occurrence of longleaf pine, overstory.

The establishing purposes for the refuge include:

1. Provide habitat for natural diversity of wildlife associated with Big Branch Marsh.
2. Provide wintering habitat for migratory waterfowl.
3. Provide nesting habitat for wood ducks.
4. Provide habitat for non-game migratory birds.
5. Provide opportunities for compatible public outdoor recreation such as hunting, fishing, hiking, bird-watching, and environmental education and interpretation, whenever they are compatible with the purposes of the refuge.

The fire management plan states the goals and the objectives of the fire management program to include:

- First and foremost is to protect the lives of refuge visitors, employees, local residents and insure firefighter safety during fire emergencies.
- Aggressively suppress all wildfires, utilizing suppress strategies and tactics that will provide the lowest level of negative impact to refuge resources and reduce negative impacts to local air quality.
- Provide for an aggressive hazard fuel reduction program using fire crews and refuge equipment for the reduction and removal of hazardous accumulations of live and dead fuels along roads, refuge boundaries, visitor facilities, refuge operation facilities and other refuge improvements. Hazardous fuel reduction projects will be accomplished on and adjacent to Big Branch Marsh NWR in order to reduce the severity of any wildland fire.
- Provide for continuing public education in fire management practices and wildland fire hazards to refuge visitors, staff, and the local community in cooperation with local fire agencies.
- Provide the assistance to refuge firefighting equipment and personnel when requested, to other local, state, and federal firefighting agencies during local, regional and national fire emergencies.

In addition to these fire management goals and objectives, the refuge uses prescribed fire to:

- Maintain historical fire dependent plant communities by reducing the height and abundance of mid-story species.
- Use fire to increase the availability and distribution of wildlife food plants such as three square in the marsh habitats.
- Provide for wildland fire protection through hazardous fuel reduction on the refuge while protecting the overstory and assist in reducing hazardous fuel risks on neighboring lands.
- Reduce the number and abundance of exotic and invasive species.

Within these broad goals, several objectives are pertinent to the Burned Area Rehabilitation Plan for the Rickwood Fire. The first goal under the refuge management goals is to provide for natural diversity of wildlife habitat is the one that is most pertinent to the plan. The greatest concerns of the impacts of the Rickwood Fire are on the loss of native southern pine forest resources for Red-cockaded Woodpecker habitat and the increased invasion of Chinese tallow tree following the wildfire. The Burned Area Rehabilitation Plan proposes to chemically treat the burned area with herbicides such as Imazapyr and/or Glyphosate to reduce woody competition prior to planting. Slash pine tree bare root and longleaf pine containerized seedlings will be planted the fall season after chemical application.

TABLE OF CONTENTS

PART A - FIRE LOCATION AND BACKGROUND INFORMATION

Fire Name	Rickwood
Fire Number	C2JQ
Agency Unit	Big Branch Marsh NWR
Region	R-4, Southeast Region
State	LA
County(s)	St. Tammany
Ignition Date/Cause	Aug 2, 2006 / unknown
Zone	FWS Fire Management District 7 R4
Date Fully Contained	8/5/2006 (3yrs = 8/5/2009)
Jurisdiction	120 Acres

PART B - NATURE OF PLAN

Type of Action (check one box below)

X	Initial Submission
	Amendment to the Initial Submission

PART C - REHABILITATION ASSESSMENT

Overall Rehabilitation Objectives

- *Assess damage Red-cockaded Woodpecker habitat in the burned area*
- *Apply herbicide aerially to control woody invasive species and reduce competition on the site in preparation for tree seedling planting*
- *Conduct site-prep burn to prepare seedling bed for planting*
- *Plant native slash pine tree seedlings throughout burned area*
- *Monitor rehabilitation treatments for implementation and effectiveness*

PART D - TEAM ORGANIZATION, MEMBERS, AND RESOURCE ADVISORS

I. Burned Area Emergency Response Team Members:

Position	Team Member (Agency)
Team Leader	Mark Jamieson, Big Branch Marsh NWR
Refuge Manager / Forester/ Pest Manager	Danny Breaux, Big Branch Marsh NWR
FMO/ Forester	Mark Jamieson, Big Branch Marsh NWR
Complex Biologist	James Harris, Southeast Louisiana Refuges
Wildlife Biologist/ Environmental Specialist	Charlotte Parker, Southeast Louisiana Refuges

III. Resource Advisors: (Note: Resource Advisors are individuals who assisted the Burned area emergency response team with the preparation of the plan. See Part H for a full list of agencies and individuals who were consulted or otherwise contributed to the development of the plan.

Name	***Affiliation***
Sue Grace	Regional Fire Ecologist, Fire Management Field Office, Lacombe, LA 985-882-2008
Debbie Fuller	Endangered Species Coordinator, Ecological Services Office, Lafayette, LA 337-291-3124
Whit Lewis	Regional Integrated Pest Management Coordinator, Hatchie NWR, TN 731-772-0501 ext.225

PART E - SUMMARY OF ACTIVITIES AND COSTS

The summary of activities and cost table below identifies rehabilitation costs charged or proposed for funding from sub-activity 9262 funding sources.

REHABILITATION ACTIVITIES COST SUMMARY TABLE – Rickwood Fire

Spec #	Title	Unit	Unit Cost	# of Units	Work Agent	Cost
1	Site Preparation - Aerial Spraying	acre	$186.95	120	FA,SC	$22,433.60
2	Site Preparation - Site Prep Burn	acre	$25.00	120	FA	$3,000.00
3	Slash and Longleaf Pine seedling Planting	acre	$119.61	120	FA,SC	$14,354.00
4	Monitor Treatment Implementation and Effectiveness	Acre/yr	$11.67	120	FA	$4,200.00
					TOTAL COST	$43,987.60
Work Agent: CA=Coop Agreement, FA=Force Account, G=Grantee, P=Permitee, SC=Service Contract, TSP=Timber Sales						

Spec #	Title	Unit	Unit Cost	# of Units	Work Agent	Cost
Purchaser, V=Volunteer						

PART F - INDIVIDUAL SPECIFICATION, Specification #1

TREATMENT/ACTIVITY NAME	Aerial Application of Arsenal	**PART E SPECIFICATION #**	1
NFPORS TREATMENT CATEGORY*	Aerial Application	**FISCAL YEAR(S) (list each year):**	2007
NFPORS TREATMENT TYPE *	Aerial Application	**WUI? Y / N**	Yes
IMPACTED COMMUNITIES AT RISK	Slidell, La	**IMPACTED T&E SPECIES**	Yes, Red-cockaded Woodpecker

WORK TO BE DONE (describe or attach exact specifications of work to be done):

Number and Describe Each Task:

A. General Description:
The Rickwood Fire burned over 120 acres of native southern pine forest that Red-cockaded Woodpeckers used for foraging and nesting habitat. Following the wildfire a significant amount of re-sprouting of the invasive species, Chinese tallow tree was observed. This specification is designed to aerial spray herbicide in an attempt to reduce the amount of the invasive species, Chinese tallow tree following the wildfire.

B. Location/(Suitable) Sites:
Salmen Tract of Big Branch Marsh NWR

C. Design/Construction Specifications:
Imazapyr and Glyphosate or a combination of both will be aerially applied to the burned area at a rate of 16ounces per acre as recommended from the manufacturer's recommendations.

D. Purpose of Treatment Specifications:
The application of herbicide to reduce the amount of invasive species present is important to the success of the replanting effort in Specification #3 below.

E. Treatment Effectiveness Monitoring Proposed:
Standard protocols will be used to monitor survival of tree seedlings (see Specification #4 below).

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES:	**COST / ITEM**
TOTAL PERSONNEL SERVICE COST (GS 11 @ $35/hour X 16 hrs X 1 yr = $560)	$560
EQUIPMENT PURCHASE, LEASE AND/OR RENT	**COST / ITEM**
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
MATERIALS AND SUPPLIES	**COST / ITEM**
TOTAL MATERIALS AND SUPPLY COST (arsenal @ 16 oz per acre X120 acres or 15 gallons @ $458.24 per gallon)	$6,873.60
TRAVEL COST	**COST / ITEM**
TOTAL TRAVEL COST	
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST / ITEM**
TOTAL CONTRACT COST (Estimated Contractor's cost for Helicopter and Labor to complete aerial	$15,000

spray application)	

SPECIFICATION COST SUMMARY:

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNIT S	UNIT COST	PLANNED ACCOMPL ISHMENTS	PLANNED COST
FY__07 FY_ FY_ FY__	5/1/2007	06/30/2007	SC, F	120	$191.61		$22,433.60
		TOTAL					**$22,433.60**

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE:

1.	Estimate obtained from 2-3 independent contractual sources.	
2.	Documented cost figures from similar project work obtained from local agency sources.	M/S, C
3.	Estimate supported by cost guides from independent sources or other federal agencies	
4.	Estimates based upon government wage rates and material cost.	P
5.	No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See Map of Rickwood Fire.

TOTAL COST BY JURSIDICTION:

JURISDICTION	UNITS TREATED	COST
Big Branch Marsh National Wildlife Refuge	120	$22,433.60
	TOTAL COST	$**22,433.60**

PART F - INDIVIDUAL SPECIFICATION, Specification #2

TREATMENT/ACTIVITY NAME	Site Prep Burn	**PART E SPECIFICATION #**	2
NFPORS TREATMENT CATEGORY*	Prescribed Fire	**FISCAL YEAR(S) (list each year):**	2007
NFPORS TREATMENT TYPE *	Prescribed Fire	**WUI? Y / N**	Yes
IMPACTED COMMUNITIES AT RISK	Slidell, La	**IMPACTED T&E SPECIES**	Yes, Red-cockaded Woodpecker

WORK TO BE DONE (describe or attach exact specifications of work to be done):

Number and Describe Each Task:

A. General Description:
The Rickwood Fire burned over 120 acres of native southern pine forest that Red-cockaded Woodpeckers used for foraging and nesting habitat. Following the wildfire a significant amount of re-sprouting of the invasive species, Chinese tallow tree was observed. This specification is designed to use a prescribed burn to prepare the forest floor for planting native slash pine seedlings (3 below).

B. Location/(Suitable) Sites:
Salmen Tract of Big Branch Marsh NWR

C. Design/Construction Specifications: A prescribed fire burn plan will be developed for this moderate complexity burn according to the approved Fire Management Plan for Big Branch Marsh NWR. The prescribed fire will be conducted in accordance to the prescribed burn plan for the site. The burn will not be conducted without an approved prescribed fire burn plan.

D. Purpose of Treatment Specifications: To prepare the site for planting native longleaf and slash pine seedlings and reduce woody species on site.

E. Treatment Effectiveness Monitoring Proposed:
Standard protocols will be used to monitor survival of tree seedlings (see Specification #4 below).

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES:	COST / ITEM
TOTAL PERSONNEL SERVICE COST ($20.00 per acre)	$2,400.00
EQUIPMENT PURCHASE, LEASE AND/OR RENT	**COST / ITEM**
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
MATERIALS AND SUPPLIES	**COST / ITEM**
TOTAL MATERIALS AND SUPPLY COST ($5.00 per acre)	$600.00
TRAVEL COST	**COST / ITEM**
TOTAL TRAVEL COST	
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST / ITEM**
TOTAL CONTRACT COST	

SPECIFICATION COST SUMMARY:

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
FY__07	8/1/2007	09/30/2007	F	120	$		$3,000.00
FY_08	10/1/2007	12/31/2007	F				$0.00
FY_							
FY__							
		TOTAL					$3,000.00

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE:

1.	Estimate obtained from 2-3 independent contractual sources.	
2.	Documented cost figures from similar project work obtained from local agency sources.	M/S
3.	Estimate supported by cost guides from independent sources or other federal agencies	
4.	Estimates based upon government wage rates and material cost.	P
5.	No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See Map of Rickwood Fire.

TOTAL COST BY JURSIDICTION:

JURISDICTION	UNITS TREATED	COST
Big Branch Marsh National Wildlife Refuge	120	$3,000.00

	TOTAL COST	$3,000.00

PART F - INDIVIDUAL SPECIFICATION, Specification #3

TREATMENT/ACTIVITY NAME	Slash and Longleaf Pine Tree Seedling Planting	**PART E SPECIFICATION #**	3
NFPORS TREATMENT CATEGORY*	Tree Seedling	**FISCAL YEAR(S) (list each year):**	2008
NFPORS TREATMENT TYPE *	Tree Seedling	**WUI? Y / N**	Yes
IMPACTED COMMUNITIES AT RISK	Slidell, LA	**IMPACTED T&E SPECIES**	Yes, Red-cockaded Woodpecker

WORK TO BE DONE (describe or attach exact specifications of work to be done):

Number and Describe Each Task:

A. General Description:
This specification describes the re-planting of native slash and longleaf pine tree seedlings that will be planted within the burned area.

B. Location/(Suitable) Sites:
Salmen Tract of Big Branch Marsh NWR.

C. Design/Construction Specifications:
Bare root slash pine and containerized longleaf pine seedlings will be purchased from a local source and planted by contract personnel on the 120 acres spacing of 10 X 10 averaging 435 seedlings per acre, plus/minus 25 seedlings per acre. The longleaf seedlings will be concentrated in the areas of Abita soils and slash pine seedlings will be concentrated in the Guyton soils.

D. Purpose of Treatment Specifications:
This specification is important to the restoration of the native southern pine forests that were destroyed by the Rickwood Wildfire.

E. Treatment Effectiveness Monitoring Proposed:
Seedling success will be monitored following the re-planting effort (see Specification #4 below).

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES:	**COST / ITEM**
TOTAL PERSONNEL SERVICE COST (GS 11 @ $35/hour X 32 hrs X 1 yr = $1120) + (GS 12 @ $35/hour X 16 hrs X 1 yr = $560)	$1,760.00
EQUIPMENT PURCHASE, LEASE AND/OR RENT	**COST / ITEM**
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
MATERIALS AND SUPPLIES	**COST / ITEM**
TOTAL MATERIALS AND SUPPLY COST (55,000 seedlings, slash; 37,000 @ $42.00 per 1000, longleaf; 18,000 @ $180.00 per 1000)	$4,794.00
TRAVEL COST	**COST / ITEM**
TOTAL TRAVEL COST	

CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	COST / ITEM
TOTAL CONTRACT COST (estimated contractor costs for hand planting- $65.00 per acre)	$7,800.00

SPECIFICATION COST SUMMARY:

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNIT S	UNIT COST	PLANNED ACCOMPL ISHMENTS	PLANNED COST
FY__08 FY_ FY_ FY__	12/01/2007	3/31/2008	SC, F	120	$91.68		$14,354.00
		TOTAL					**$14,354.00**

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE:

1.	Estimate obtained from 2-3 independent contractual sources.	
2.	Documented cost figures from similar project work obtained from local agency sources.	M, C
3.	Estimate supported by cost guides from independent sources or other federal agencies	
4.	Estimates based upon government wage rates and material cost.	P
5.	No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See Map of Rickwood Fire.

TOTAL COST BY JURSIDICTION:

JURISDICTION	UNITS TREATED	COST
Big Branch Marsh NWR	120	$14,354.00
	TOTAL COST	**$14,354.00**

PART F - INDIVIDUAL SPECIFICATION, Specification #4

TREATMENT/ACTIVITY NAME	Monitor Treatment Implementation and Effectiveness	**PART E SPECIFICATION #**	4
NFPORS TREATMENT CATEGORY*	monitoring	**FISCAL YEAR(S) (list each year):**	2007, 2008, 2009
NFPORS TREATMENT TYPE *	monitoring	**WUI? Y / N**	Yes
IMPACTED COMMUNITIES AT RISK	Slidell, LA	**IMPACTED T&E SPECIES**	Yes, Red-cockaded Woodpecker

WORK TO BE DONE (describe or attach exact specifications of work to be done):

Number and Describe Each Task:

A. General Description:
Monitor the implementation and effectiveness of rehabilitation treatment efforts three years following wildfire.

B. Location/(Suitable) Sites:
120 Acres of the Salmen Tract of Big Branch Marsh NWR

C. Design/Construction Specifications:

Regional Fire Ecologist will provide protocols for monitoring to the Refuge Fire Management Officer who will conduct the monitoring. All monitoring activities will be reported in the final report and annual reports.

D. Purpose of Treatment Specifications:
To determine if rehabilitation treatments were implemented as planned and effective. To monitoring the success of the seedlings planted.

E. Treatment Effectiveness Monitoring Proposed:
Seedling success will be monitored using standard survival rate determination protocols as determined by the Regional Fire Ecologist in collaboration with the Refuge Fire Management Officer.

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES:	COST / ITEM
TOTAL PERSONNEL SERVICE COST (GS 11@ $35/hour X 40 hrs X 3 yrs = $)	$4,200
EQUIPMENT PURCHASE, LEASE AND/OR RENT	**COST / ITEM**
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
MATERIALS AND SUPPLIES	**COST / ITEM**
TOTAL MATERIALS AND SUPPLY COST	
TRAVEL COST	**COST / ITEM**
TOTAL TRAVEL COST	
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST / ITEM**
TOTAL CONTRACT COST	

SPECIFICATION COST SUMMARY:

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
FY_07	5/1/2007	9/30/2007	F	120	$11.67		$1,400.00
FY_08	5/1/2008	9/30/2008	F	120	$11.67		$1,400.00
FY_09	5/01/2009	7/31/2009	F	120	$11.67		$1,400.00
FY__							
TOTAL							**$4,200.00**

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE:

1.	Estimate obtained from 2-3 independent contractual sources.	
2.	Documented cost figures from similar project work obtained from local agency sources.	
3.	Estimate supported by cost guides from independent sources or other federal agencies	
4.	Estimates based upon government wage rates and material cost.	P
5.	No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See Map of Rickwood Fire.

TOTAL COST BY JURSIDICTION

JURISDICTION	UNITS TREATED	COST
Big Branch Marsh NWR	120	$4,200.00

	TOTAL COST	**$4,200.00**

PART G - RESTORATION REQUIREMENT

The following are post-rehabilitation implementation, operation, maintenance, monitoring, and evaluation actions beyond three years from fire control to ensure the effectiveness of initial investments. Costs for monitoring and survival studies will be incurred by the refuge.

Restoration

Refuge staff will continue to monitor the effectiveness of rehabilitation treatments and seedling survival following the initial rehabilitation effort described in this plan. If any spot applications of herbicide are required to control invasive specie competition that will be accomplished with refuge staff and equipment. The number of seedlings per acre was determined to allow for some mortality, yet low enough that no thinning harvest should be needed until the trees begin to mature 20 to 30 years from planting. Timber harvest will be planned to achieve a basal area of 80 sq ft which is desired for the Red-cockaded Woodpecker Habitat according to the RCW Recovery Plan (USFWS 1985). No additional prescribe burning is anticipated and fire should be excluded from the site for a number of years until the seedlings are of sufficient height to withstand a burn, somewhere between six and twelve years from planting. The first burn on this site should be a very low intensity fire, preferably on a cold day with a strong north wind, and the fire be allowed to back through the site to consume the ground fuels and have minimal affect on the crowns of the pines.

PART H - CONSULTATIONS

Refuge Biologist, Big Branch Marsh NWR, Lacombe, LA
Endangered Species Biologist, Ecological Services Office, Lafayette, LA
Refuge Manager, Big Branch Marsh NWR, Lacombe, LA
Regional Integrated Pest Management Coordinator, Southeast Region, Hatchie NWR, TN
Regional Fire Ecologist, Southeast Region, Lacombe, LA
Prescribed Fire Specialist, Mississippi Sandhill Crane NWR, Gautier, MS
District 7, Zone Fire Management Officer, Mississippi Sandhill Crane NWR

APPENDIX I - BURNED AREA ASSESSMENT REPORTS

RICKWOOD FIRE RESOURCE DAMAGE ASSESSMENT REPORT

I. Objectives

To access the first order fire effects and any damages to Rickwood NWR natural resources incurred by the Rickwood wildfire.

II. Observations

The burned area lies within the Salmen Tract of the Big Branch Marsh NWR which serves as significant habitat for the Red-cockaded Woodpecker (RCW). Major habitat types of the burned area include pine flatwood forests, marsh and open water. The Salmen Tract is approximately 4,131 acres most of which is native slash, longleaf, and loblolly pine forest habitat and marsh. Prior to Hurricane Katrina, there were 37 known locations of RCW cavity trees (almost half the total population for the refuge). Following the hurricane a significant effort was made to install artificial insert boxes in the vicinity of the pre-hurricane cavity trees. Following the wildfire most trees are dead with no remaining trees available for cavity inserts. It was clear from the initial assessment visit that there are few remaining seed trees left on the Salmen Tract following Hurricane Katrina and there is little chance for regeneration. Hugh piles of debris were consumed by the fire and the burn severity across the tract ranged from moderate to high where fuel sources were heavy. The invasive species, Chinese tallow was seen re-sprouting one month after the fire.

III. Recommendations

- Aerial spray herbicide to reduce the invasion of Chinese tallow tree and to help site preparation for slash and longleaf pine seedlings planting.
- Conduct a site-prep burn to prepare the bed for seedling planting.
- Plant slash and longleaf pine tree seedlings at a spacing of 10 X 10 or 435 per acre throughout the burned area to restore native southern pines lost to the wildfire.
- Monitor treatment effectiveness and seedling success following plantings.

IV. Consultations

- Refuge Biologist, Big Branch Marsh NWR, Lacombe, LA
- Endangered Species Biologist, Ecological Services Office, Lafayette, LA
- Refuge Manager, Big Branch Marsh NWR, Lacombe, LA
- Regional Integrated Pest Management Coordinator, Southeast Region, Hatchie NWR, TN
- Regional Fire Ecologist, Southeast Region, Lacombe, LA
- Prescribed Fire Specialist, Mississippi Sandhill Crane NWR, Gautier, MS
- District 7, Zone Fire Management Officer, Mississippi Sandhill Crane NWR

V. References

- Annual narratives, Big Branch Marsh NWR
- Fire Records, Rickwood Fire, Big Branch Marsh NWR

APPENDIX II - ENVIRONMENTAL COMPLIANCE

Federal, State, and Private Lands Environmental Compliance Responsibilities

All projects proposed in the Rickwood Burned Area Rehabilitation Plan that are prescribed, funded, or implemented by Federal agencies on Federal, State, or private lands are subject to compliance with the National Environmental Policy Act (NEPA) in accordance with the guidelines provided by the Council on Environmental Quality (CEQ) Regulations (40 CFR 1500-1508); Department of the Interior and the U.S. Fish & Wildlife Service. This Appendix documents the Burned area emergency response team considerations of NEPA compliance requirements for prescribed rehabilitation and monitoring actions described in this plan for all jurisdictions affected by the Rickwood Fire.

Related Plans and Cumulative Impact Analysis

Rickwood Burned Area Rehabilitation Plan *(September 2006)*. The Rickwood Fire Burned Area Rehabilitation Plan was reviewed and it was determined that actions proposed in the Fire Burned Area Rehabilitation Plan within the boundary of the Rickwood Fire are consistent with the management objectives established in the Draft Comprehensive Conservation Plan. The Draft Comprehensive Conservation Plan NEPA compliance process specifically addresses

GOAL 1. Identify, conserve, manage, and restore populations of native fish and wildlife species representative of the Lake Pontchartrain Basin, with emphasis on migratory birds and threatened and endangered species.

Objective 1.1: Manage and protect threatened and endangered species through implementation of recovery plans.

GOAL 2. To restore, improve, and maintain a mosaic of forested and wetland habitats native to the Lake Pontchartrain Basin in order to ensure healthy and viable plant and animal communities, with an emphasis on endangered and threatened species.

Objective 2.3: Manage and maintain pine flatwood, savannah, and hardwood hummock habitats for refuge resources.

Throughout the life of the plan implement an active forest management program to maintain healthy and diverse forest communities and ensure a healthy forest ecosystem by providing a natural diversity of plant species

Objective 2.4: Improve and restore pine flatwood and savannah habitats for refuge resources

Create open stand conditions with basal areas (BA) of 60-80, and native ground cover species by reducing woody understory and midstory vegetation following guidelines of the red-cockaded woodpecker recovery plan and using the red-cockaded woodpecker as an indicator species of a healthy southern pine ecosystem

Implement an aggressive control program to reduce invasive, exotic vegetation

From U.S. Fish and Wildlife Service, 2003, Recovery plan for the red-cockaded woodpecker *(Picoides borealis)*: second revision. U.S. Fish and Wildlife Service, Atlanta, GA. 296 pp.

For red-cockaded woodpeckers, restoration of good quality habitat is vital to the recovery of the species. Important management tools in habitat restoration include planting and seeding native, site-appropriate pines and groundcovers and the use of site preparation methods that minimize soil disturbance.

Cumulative Impact Analysis

Cumulative effects are the environmental impacts resulting from the incremental impacts of a proposed action when added to other past, present, and reasonably foreseeable future actions, both Federal and non-Federal. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time. The rehabilitation treatments for areas affected by the Rickwood Fire, as proposed in the Rickwood Fire Burned Area Rehabilitation Plan, do not result in an intensity of impact (i.e. major ground disturbance, etc.) that would cumulatively constitute a significant impact on the quality of the environment. The treatments are consistent with the above jurisdictional management plans and associated environmental compliance documents and categorical exclusions listed below.

Applicable and Relevant Categorical Exclusions

The individual actions proposed in this plan for Rickwood Fire are Categorically Excluded from further environmental analysis as provided for in section 516 DM Appendix 2 of the Departmental Manual. All applicable and relevant Department and Agency Categorical Exclusions are listed below. Categorical Exclusion decisions were made with consideration given to the results of required emergency consultations completed by the Burned area emergency response team and documented below.

Applicable Department Categorical Exclusions

- The operation, maintenance, and management of existing facilities and routine reoccurring management activities and improvements, including renovations and replacements which result in no or only minor changes in the use and have no negligible and environmental effects on-site or in the vicinity of the site.
- Fire management activities, including prevention and restoration measures, when conducted in accordance with departmental and Service procedures.
- Consultation and technical assistance activities directly related to the conservation of fish and wildlife resources.

Statement of Compliance for the Rickwood Fire Burned Area Rehabilitation Plan.

This section documents consideration given to the requirements of specific environmental laws in the development of the Rickwood Fire Burned Area Rehabilitation Plan. Specific consultations initiated or completed during development and implementation of this plan are also documented. The following executive orders and legislative acts have been reviewed as they apply to the Rickwood Fire Burned Area Rehabilitation Plan:

- National Historic Preservation Art (NAPA).
- Executive Order ll988. Flood plain Management.
- Executive Order 11990. Protection of Wetlands.
- Executive Order 12372. Intergovernmental Review.
- Executive Order 12892. Federal Actions to Address Environmental Justice in Minority and Low-income Populations.
- Endangered Species Act.
- Secretarial Order 3127. Federal Contaminated
- Clean Water Act.
- Clean Air Act.

CONSULTATIONS
Refuge Biologist, Big Branch Marsh NWR, Lacombe, LA
Endangered Species Biologist, Ecological Services Office, Lafayette, LA
Refuge Manager, Big Branch Marsh NWR, Lacombe, LA
Regional Integrated Pest Management Coordinator, Southeast Region, Hatchie NWR, TN
Regional Fire Ecologist, Southeast Region, Lacombe, LA
Prescribed Fire Specialist, Mississippi Sandhill Crane NWR, Gautier, MS
District 7, Zone Fire Management Officer, Mississippi Sandhill Crane NWR

NEPA Checklist: If any of the following exception applies, the Burned Area Rehabilitation Plan cannot be Categorically Excluded and an Environmental Assessment (EA) is required.

(Yes) (No)
( ) (x) Adversely affect Public Health and Safety
( ) (x) Adversely affect historic or cultural resources, wilderness, wild and scenic rivers aquifers, prime farmlands, wetlands, floodplains, ecologically critical areas, or Natural Landmarks.
( ) (x) Have highly controversial environmental effects.
( ) (x) Have highly uncertain environmental effects or involve unique or unknown environmental risks.
( ) (x) Establish a precedent resulting in significant environmental effects.
( ) (x) Relates to other actions with individually insignificant but cumulatively significant environmental effects.
( ) (x) Adversely effects properties listed or eligible for listing in the National Register of Historic Places
( ) (x) Adversely affect a species listed or proposed to be listed as Threatened or Endangered.
( ) (x) Threaten to violate any laws or requirements imposed for the "protection of the environment" such as Executive Order 11988 (Floodplain Management) or Executive Order 1 1990 (Protection of Wetlands).

National Historic Preservation Act
Ground Disturbance:

(X) None
( ) Ground disturbance did occur and an archeologist survey, required under section 110 of the NHPA will be prepared. A report will be prepared under contract as specified by the Burned Area Rehabilitation Plan.

A NHPA Clearance Form:

( ) Is required because the project may have affected a site that is eligible or on the national register. The clearance form is attached. SHPO has been consulted under Section 106 (see Cultural Resource Assessment, Appendix I).
(X) Is not required because the Burned Area Rehabilitation Plan has no potential to affect cultural resources (initial of cultural resource specialist).

Other Requirements

(Yes)	(No)	
( )	(X)	Does the Burned Area Rehabilitation Plan have potential to affect any Native American uses? If so, consultation with affiliated tribes is needed.
(X)	( )	Are any toxic chemicals, including pesticides or treated wood, proposed for use? If so, local agency integrated pest management specialists must be consulted. (The use of Arsenal on Refuge lands must be approved on a yearly basis by submission of pesticide use proposals (PUP) through the regional IPM coordinator.

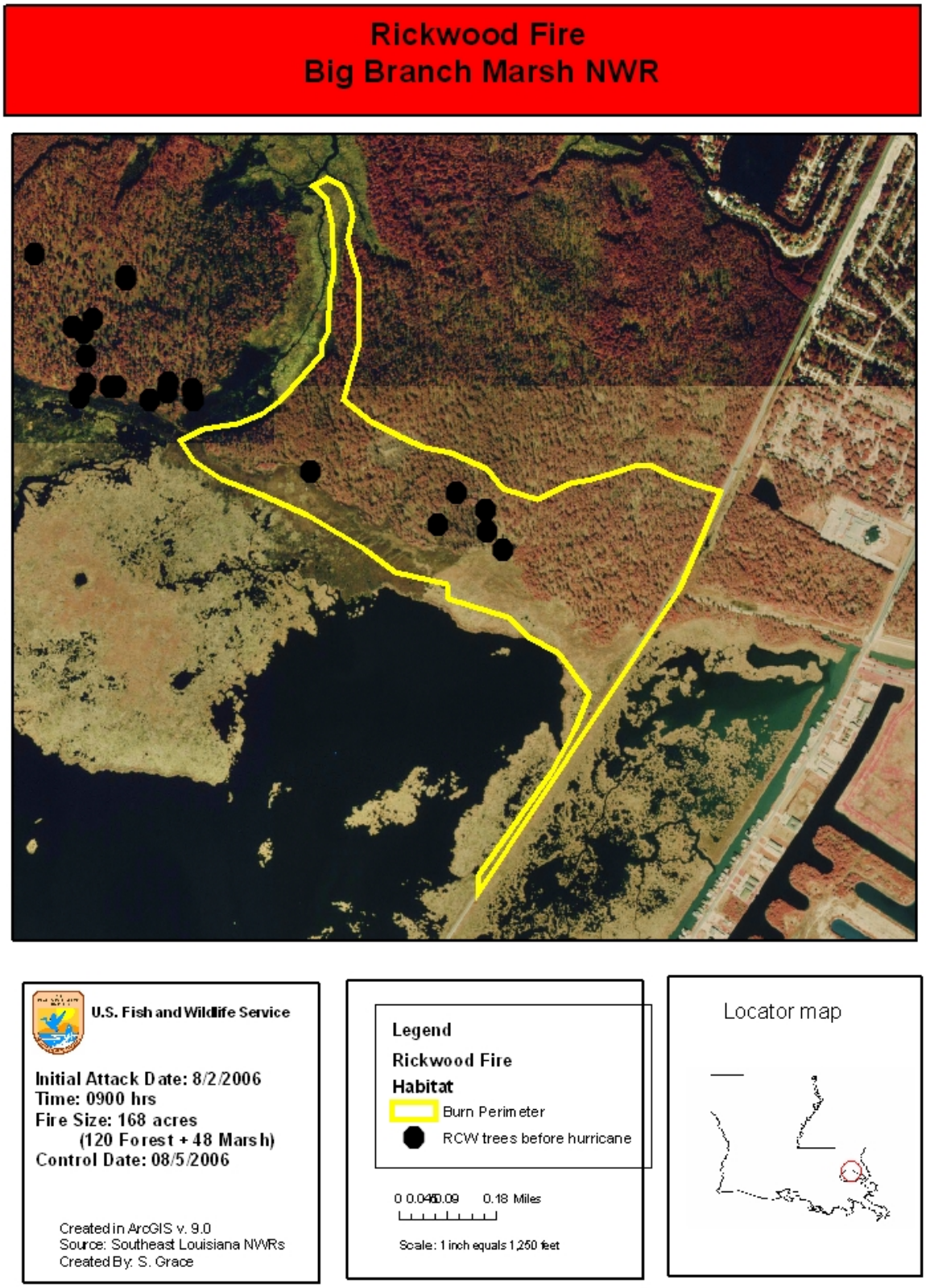
I have reviewed the proposals in the Rickwood Fire Burned Area Rehabilitation Plan in accordance with the criteria above and have determined that the proposed actions would not involve any significant environmental effect. Therefore it is categorically excluded from further environmental (NEPA) review and documentation. Burned area emergency response team technical specialists have completed necessary coordination and consultation to insure compliance with the National Historic Preservation Act, Endangered Species Act, Clean Water Act and other Federal, State and local environment review requirements.

Burned Area Emergency Response Team Environmental Specialist Date

Project Leader, Southeast Louisiana Refuges Complex Date

APPENDIX III - MAPS

- *Rickwood Fire Perimeter and Information Map*



APPENDIX IV - PHOTO DOCUMENTATION

APPENDIX V – PESTICIDE USE PROPOSAL

U.S. Department of Interior
U.S. Fish and Wildlife Service
Pesticide Use Proposal
PUP #: R4-07-43550-01

Refuge, Complex, Hatchery, or Other Site Name: **Big Branch NWR**
County(ies) and State(s): **St. Tammany Parish, LA**
Contact Person, Phone, Fax, and Email Address: **Danny Breaux** **985-882-2030 phone** **985-882-9133 fax** **Daniel_breaux@fws.gov**
Crop/Habitat of Treatment Site: **Slash pine forest**
Location of Proposed Application (management unit or other unique site ID). Attach Map if Available. **Salmen Tract. See attached Map- Appendix III of Rehab plan above.**
Site Management Goal(s): **Restore native slash pine forest and reduce invasive woody species.**
Need(s) for Treatment: Invasive Species State or Federal-listed Noxious Species Native Habitat Restoration Habitat Improvement Listed Species Protection/Recovery Wildlife Health Protection Public Health Protection Crop Pest Other (Specify): **1. Reduce invasive species, Chinese tallow tree and other woody shrub species that will compete with native slash pine seedlings for establishment.** **2. Release native slash pine seedlings planted as part of rehab program.**
Target Pest(s) (common and genus/species names for each): **Chinese tallow tree, noxious native woody species.**
Is there a monitoring plan for the target pest(s)? **yes, see Rehabilitation Plan above.**
Proposed Action Threshold(s) Triggering Treatment: **high density of Chinese tallow tree resprouts following Rickwood wildfire.**

U.S. Department of Interior
U.S. Fish and Wildlife Service
Pesticide Use Proposal
PUP #: R4-07-43550-01

Year of Last Approved IPM Plan: _____**N/A**_____ Attach IPM Plan if Available.
Is this pesticide use part of your integrated pest management plan? **Yes**
Will non-chemical control methods be attempted? **Yes** If no, please explain rationale for pesticide use if different than previous descriptions.
Trade Name(s) and EPA Reg. Number(s): **Arsenal (EPA 241-299)**
Common or Chemical Name(s): **Imazapyr**
Manufacturer(s): **BASF**
Please attach or give the website for the label(s) and MSDS(s). **www.rrsi.com**
Are the Pest(s) in this PUP Listed on the Pesticide Label? **YES**
Is the Crop, Type of Vegetation, or Site Type Listed on the Pesticide Label? **YES**
If the crop, type of vegetation, or site type is not listed, is there a current Section 24(c) (local needs) or Section 18 emergency exemption under which you are proposing to operate? **N/A**
Is use of the proposed pesticide part of any trial to compare different methods of treatment? **No**

U.S. Department of Interior
U.S. Fish and Wildlife Service
Pesticide Use Proposal
PUP #: R4-07-43550-01

Is this a restricted use pesticide (RUP)?**Yes**
If a RUP, Certified Pesticide Applicator ID#, Company, and Expiration Date: To be contracted. **Monitored by Daniel Breaux ID#00037597: LA Dept of AG and Forestry**
If General Use Pesticide, Lead Pesticide Applicator Name and Company: **This pesticide is under restricted use and requires an applicator license.**
Is this a tank mix? **Yes**
Formulation: Aqueous Flowable Aqueous Suspension Dust Dry Flowable Emusifiable Concentrate Flowable Microencapsulated Granule Solution Wettable Powder Other (Specify): **1. Flowable Aqueous Suspension**
Toxic Inert Ingredients Listed on MSDS: **not listed**
Trade Names of Adjuvants (Drift Control Agents, Stickers, Surfactants, Oils): **Red River 90**
Application Date(s): **May- June 2007**
Number of Applications per Site: **One**
Not to Exceed Limits on Label (lbs a.i./acre/season): **16oz**
Product Application Rate(s) Proposed**: 4 -10 oz/ac**
Maximum Active Ingredient Rate Allowed on Label, if specified (lb a.i./acre): **10 oz/ac**

U.S. Department of Interior
U.S. Fish and Wildlife Service
Pesticide Use Proposal
PUP #: R4-07-43550-01 Arsenal

Application Method(s): Broadcast Directed-Spray Backpack Spray Cut-Stump Frill Basal Spray Injection Wick/Wipe Ultra Low-Volume (ULV) Chemigation Other (Specify): **Broadcast**
Application Equipment: Hand-Held Backpack Fogger Wet-Blade Mower Boom All-Terrain Vehicle (ATV) Truck Tractor Boat Fixed-Wing Aircraft Helicopter Other (Specify): **Helicopter**
Estimated Maximum Size of Treatment Area(s) (to nearest acre or acre foot): **120 acres**
If Spot Treatment, Estimated Average Percent Cover To Be Treated (if not 100%): ___**N/A**_____ %
Average Monthly Rainfall at Site During Proposed Application Period(s) (inches, use range if multiple months): **5 inches**
Soil Texture(s): Clay Silty Clay Sandy Clay Clay Loam Silty Clay Loam Sandy Clay Loam Silt Silt Loam Loam Sandy Loam Loamy Sand Sand Gravel Other (Specify): **Silt Loam: Abita and Guyton soils**

U.S. Department of Interior
U.S. Fish and Wildlife Service
Pesticide Use Proposal
PUP #: R4-07-43550-01

Organic Matter in Soil: < 0.5% 0.5% to 1.0% 1.0% to 1.5% 1.5% to 2.0% 2.0% to 2.5% 2.5% to 3.0% 3.0% to 3.5% 3.5% to 4.0% 4.0% to 4.5% 4.5% to 5.0% > 5.0%: **>5**
Slope(s) of Treatment Site: Flat < 3º < 10º >10º; **0-2**
Soil pH, if known: ___**mostly acidic**____If unknown: **pH ≤ 7 (mostly)**
Top Soil (to 3-ft Depth) During/Following Treatment: Dry Moist Saturated Not Predictable: **Saturated**
Shallowest Depth to Groundwater: < 1 ft < 5 ft < 10 ft < 100 ft > 100 ft Unknown : **<1'**
Distance to Closest Drinking Water Source (well or surface water intake): < 0.25 miles < 0.5 miles < 1 mile < 2 miles > 2 miles: **Unknown**
Closest Water to Treatment Site(s): N/A Ditch Drain Canal Creek/Stream River Wetland Pond Spring Lake Estuary Ocean Hatchery Other (Specify): **Natural drain to Bonfouca Bayou. See map - Appendix III of Rehabilitation Plan.**

U.S. Department of Interior
U.S. Fish and Wildlife Service
Pesticide Use Proposal
PUP #: R4-07-43550-01 Arsenal

Nearest Distance of Treatment Site to Water Body: < 25 ft < 50 ft < 100 ft < 150 ft < 300 ft < 400 ft > 400 ft Unknown : **100 ft**
Organisms that may occur at/near treatment site during or immediately after treatment. Sensitive Plant Species Native Lepidopterans Native Pollinating Insects Honeybees Mussels Crustaceans Fish Amphibians Reptiles Passerines Shorebirds Fish-eating Birds Waterfowl Mammals Other (Specify): **Red-cockaded Woodpeckers**
If no written IPM plan is available, describe IPM methods used for the pests listed in this PUP. Describe sanitation, crop rotations, changes to resistant crop varieties, changes in timing, elimination of alternate host species, fallowing, cover crops, tillage, open-water marsh management, moisture/water manipulations, burning, mechanical/manual removal, biocontrols, pheromones, and any other IPM methods to reduce or eliminate the pests and/or to reduce pesticide risks. **No other controls feasible due to wet ground conditions.**
Best Management Practices (BMPs) Proposed to Reduce Pesticide Risks. If not discussed in your written plan, list planned buffers from water or sensitive habitats, wind speed restrictions, and other BMPs: **Spray when winds are under 5mph and weather conditions are for dry forecast for at least ½ day.**

U.S. Department of Interior
U.S. Fish and Wildlife Service
Pesticide Use Proposal
PUP #: R4-07-43550-01

Endangered Species Compliance

Federally Listed, Proposed, and Candidate Species and Designated Critical Habitat (Listed Resources): If your proposed application is located near or adjacent to any listed resources you must complete and submit the appropriate Section 7 compliance documentation as part of this PUP.

For species listed by the U.S. Fish and Wildlife Service, you may complete the attached Intra-Service Section 7 form in consultation with and with assistance from the appropriate Endangered Species staff.

For species listed by the National Marine Fisheries Service (NOAA Fisheries), you must contact the appropriate office and complete Section 7 consultation with them.

If a determination of no effect is made, then Section 7 consultation is complete. The obligations under Section 7 must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner that was not considered in this review, (3) a new species is listed or critical habitat is determined that may be affected by the identified action, (4) if the amount of incidental take anticipated in a biological opinion is exceeded.

Is the appropriate Section 7 documentation completed and attached? **Yes , see Appendix VI below.**

candidate species and/or critical habitats are near or adjacent to the treament site **– yes see map, Appendix III of Rehab Plan above.**

State Listed Species and Their Habitats: If state listed species are in/near your treatment area, it is recommended that you contact the appropriate state agency for consultation procedures.

List all state listed species in/near treatment area:

U.S. Department of Interior
U.S. Fish and Wildlife Service
Pesticide Use Proposal
PUP #: R4-07-43550-01 Arsenal

PUP Reviewer(s) Signature Page

REVIEWED BY: NAME: DATE: SIGNATURE:
Manager:
Regional IPM Coordinator/Designee:
Other Reviewer if Applicable:
PUP Approval/Disapproval: __PUP Approved As Is __PUP Approved with Required Modifications (listed below) __PUP Disapproved PUP Reviewed by Region __Forwarded to the Washington Office for Review
National IPM Coordinator: PUP Approval/Disapproval: __PUP Approved As Is __PUPApproved with Required Modifications (listed below) __PUP Disapproved
Required Modifications (please attach additional sheets if needed):

U.S. Department of Interior
U.S. Fish and Wildlife Service
Pesticide Use Proposal
PUP #: R4-07-43550-01

Pesticide Usage Reporting

It is the policy of the U.S. Fish and Wildlife Service to report all pesticide usage. After pesticide application, please submit pesticide usage to the appropriate U.S. Fish and Wildlife office. Regions should include this information in their reporting system (use of this form is not necessary). Please call (703) 358-2148 if you have any questions.

PUP #:
Pesticide Applicator(s) Name, Company, and Contact Number:
Location of Pesticide Application (latitude/longitude; township/range). Attach Map if Available.
Trade Name(s) and EPA Reg. Number(s) of Pesticide(s) Applied:
Common or Chemical Name(s) of Pesticides Applied:
Application Date(s):
Number of Applications:
Amount of Active Ingredient Used Per Acre:
Size of Treatment Area:
Target Pest(s) (common and genus/species names for each):
Was your integrated pest management goal(s) obtained using this pesticide? ☐ Yes ☐ No

What degree of control did you achieve for the target pest(s)?

Where any effects to non-target organisms observed?

☐ No ☐ Yes, please explain

U.S. Department of Interior
U.S. Fish and Wildlife Service
Pesticide Use Proposal
PUP #: R4-07-43550-02

Refuge, Complex, Hatchery, or Other Site Name: **Big Branch NWR**
County(ies) and State(s): **St. Tammany Parish, LA**
Contact Person, Phone, Fax, and Email Address: **Danny Breaux** **985-882-2030 phone** **985-882-9133 fax** **Daniel_breaux@fws.gov**
Crop/Habitat of Treatment Site: **Slash pine forest**
Location of Proposed Application (management unit or other unique site ID). Attach Map if Available. **Salmen Tract. See attached Map- Appendix III of Rehab plan above.**
Site Management Goal(s): **Restore native slash pine forest and reduce invasive woody species.**
Need(s) for Treatment: Invasive Species State or Federal-listed Noxious Species Native Habitat Restoration Habitat Improvement Listed Species Protection/Recovery Wildlife Health Protection Public Health Protection Crop Pest Other (Specify): 1. **Reduce invasive species, Chinese tallow tree and other woody shrub species that will compete with native slash pine seedlings for establishment.** 2. **Release native slash pine seedlings planted as part of rehab program.**
Target Pest(s) (common and genus/species names for each): **Chinese tallow tree, noxious native woody species, release slash pine seedlings.**
Is there a monitoring plan for the target pest(s)? **yes, see Rehabilitation Plan above.**
Proposed Action Threshold(s) Triggering Treatment: **high density of Chinese tallow tree resprouts following Rickwood wildfire.**

U.S. Department of Interior
U.S. Fish and Wildlife Service
Pesticide Use Propsal
PUP #: R4-07-43550-02

Year of Last Approved IPM Plan: _____**N/A**_____ Attach IPM Plan if Available.
Is this pesticide use part of your integrated pest management plan? **Yes**
Will non-chemical control methods be attempted? **Yes** If no, please explain rationale for pesticide use if different than previous descriptions.
Trade Name(s) and EPA Reg. Number(s**): Accord (EPA 62719-324)**
Common or Chemical Name(s): **Glyphosate**
Manufacturer(s): **Dow Chemical**
Please attach or give the website for the label(s) and MSDS(s). **www.rrsi.com**
Are the Pest(s) in this PUP Listed on the Pesticide Label? **YES**
Is the Crop, Type of Vegetation, or Site Type Listed on the Pesticide Label? **YES**
If the crop, type of vegetation, or site type is not listed, is there a current Section 24(c) (local needs) or Section 18 emergency exemption under which you are proposing to operate? **N/A**
Is use of the proposed pesticide part of any trial to compare different methods of treatment? **No**

U.S. Department of Interior
U.S. Fish and Wildlife Service
Pesticide Use Proposal
PUP #: R4-07-43550-02

Is this a restricted use pesticide (RUP)?**YES**
If a RUP, Certified Pesticide Applicator ID#, Company, and Expiration Date: To be contracted. **Monitored by Daniel Breaux ID#00037597: LA Dept of AG and Forestry**
If General Use Pesticide, Lead Pesticide Applicator Name and Company: **This pesticide is under restricted use and requires an applicator's license.**
Is this a tank mix? **Yes**
Formulation: Aqueous Flowable Aqueous Suspension Dust Dry Flowable Emusifiable Concentrate Flowable Microencapsulated Granule Solution Wettable Powder Other (Specify): **Flowable Aqueous Suspension**
Toxic Inert Ingredients Listed on MSDS: **not listed**
Trade Names of Adjuvants (Drift Control Agents, Stickers, Surfactants, Oils): **Red River 90**
Application Date(s): **May-June 2007**
Number of Applications per Site: **one**
Not to Exceed Limits on Label (lbs a.i./acre/season): **16oz**
Product Application Rate(s) Proposed: **4 -10 oz/ac**
Maximum Active Ingredient Rate Allowed on Label, if specified (lb a.i./acre): **10 oz/ac**

U.S. Department of Interior
U.S. Fish and Wildlife Service
Pesticide Use Proposal
PUP #: R4-07-43550-02

Application Method(s): Broadcast Directed-Spray Backpack Spray Cut-Stump Frill Basal Spray Injection Wick/Wipe Ultra Low-Volume (ULV) Chemigation Other (Specify): **Broadcast**
Application Equipment: Hand-Held Backpack Fogger Wet-Blade Mower Boom All-Terrain Vehicle (ATV) Truck Tractor Boat Fixed-Wing Aircraft Helicopter Other (Specify): **Helicopter**
Estimated Maximum Size of Treatment Area(s) (to nearest acre or acre foot): **120 acres**
If Spot Treatment, Estimated Average Percent Cover To Be Treated (if not 100%): ___**N/A**_____ %
Average Monthly Rainfall at Site During Proposed Application Period(s) (inches, use range if multiple months): **5 Inches**
Soil Texture(s): Clay Silty Clay Sandy Clay Clay Loam Silty Clay Loam Sandy Clay Loam Silt Silt Loam Loam Sandy Loam Loamy Sand Sand Gravel Other (Specify): **Silt Loam: Abita and Guyton soils**

Organic Matter in Soil: < 0.5% 0.5% to 1.0% 1.0% to 1.5% 1.5% to 2.0% 2.0% to 2.5% 2.5% to 3.0% 3.0% to 3.5% 3.5% to 4.0% 4.0% to 4.5% 4.5% to 5.0% > 5.0%:**>5**
Slope(s) of Treatment Site: Flat < 3º < 10º >10º; **0-2**
Soil pH, if known: ___mostly acidic____**If unknown:** pH ≤ 7 (mostly)
Top Soil (to 3-ft Depth) During/Following Treatment: Dry Moist Saturated Not Predictable: **Saturated**
Shallowest Depth to Groundwater: < 1 ft < 5 ft < 10 ft < 100 ft > 100 ft Unknown : **<1'**
Distance to Closest Drinking Water Source (well or surface water intake): < 0.25 miles < 0.5 miles < 1 mile < 2 miles > 2 miles **Unknown**
Closest Water to Treatment Site(s): N/A Ditch Drain Canal Creek/Stream River Wetland Pond Spring Lake Estuary Ocean Hatchery Other (Specify): **Natural drain to Bonfouca Bayou. See map - Appendix III of Rehabilitation Plan.**

U.S. Department of Interior
U.S. Fish and Wildlife Service
Pesticide Use Proposal
PUP #: R4-07-43550-02

Nearest Distance of Treatment Site to Water Body: < 25 ft < 50 ft < 100 ft < 150 ft < 300 ft < 400 ft > 400 ft Unknown : **100 ft**
Organisms that may occur at/near treatment site during or immediately after treatment. Sensitive Plant Species Native Lepidopterans Native Pollinating Insects Honeybees Mussels Crustaceans Fish Amphibians Reptiles Passerines Shorebirds Fish-eating Birds Waterfowl Mammals Other (Specify): **Red-cockaded Woodpeckers**
If no written IPM plan is available, describe IPM methods used for the pests listed in this PUP. Describe sanitation, crop rotations, changes to resistant crop varieties, changes in timing, elimination of alternate host species, fallowing, cover crops, tillage, open-water marsh management, moisture/water manipulations, burning, mechanical/manual removal, biocontrols, pheromones, and any other IPM methods to reduce or eliminate the pests and/or to reduce pesticide risks. **No other controls feasible due to wet ground conditions.**
Best Management Practices (BMPs) Proposed to Reduce Pesticide Risks. If not discussed in your written plan, list planned buffers from water or sensitive habitats, wind speed restrictions, and other BMPs: **Spray when winds are under 5mph and weather conditions are for dry forecast for at least ½ day.**

U.S. Department of Interior
U.S. Fish and Wildlife Service
Pesticide Use Proposal
PUP #: R4-07-43550-02

Endangered Species Compliance

Federally Listed, Proposed, and Candidate Species and Designated Critical Habitat (Listed Resources): If your proposed application is located near or adjacent to any listed resources you must complete and submit the appropriate Section 7 compliance documentation as part of this PUP.

For species listed by the U.S. Fish and Wildlife Service, you may complete the attached Intra-Service Section 7 form in consultation with and with assistance from the appropriate Endangered Species staff.

For species listed by the National Marine Fisheries Service (NOAA Fisheries), you must contact the appropriate office and complete Section 7 consultation with them.

If a determination of no effect is made, then Section 7 consultation is complete. The obligations under Section 7 must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner that was not considered in this review, (3) a new species is listed or critical habitat is determined that may be affected by the identified action, (4) if the amount of incidental take anticipated in a biological opinion is exceeded.

Is the appropriate Section 7 documentation completed and attached? **Yes , see Appendix VI below.**

candidate species and/or critical habitats are near or adjacent to the treament site **– yes see map, Appendix III of Rehab Plan above.**

State Listed Species and Their Habitats: If state listed species are in/near your treatment area, it is recommended that you contact the appropriate state agency for consultation procedures.

List all state listed species in/near treatment area:

U.S. Department of Interior
U.S. Fish and Wildlife Service
Pesticide Use Proposal
PUP #: R4-07-43550-02

PUP Reviewer(s) Signature Page

REVIEWED BY: NAME: DATE: SIGNATURE:
Manager:
Regional IPM Coordinator/Designee:
Other Reviewer if Applicable:
PUP Approval/Disapproval: __PUP Approved As Is __PUP Approved with Required Modifications (listed below) __PUP Disapproved PUP Reviewed by Region __Forwarded to the Washington Office for Review
National IPM Coordinator: PUP Approval/Disapproval: __PUP Approved As Is __PUPApproved with Required Modifications (listed below) __PUP Disapproved
Required Modifications (please attach additional sheets if needed):

U.S. Department of Interior
U.S. Fish and Wildlife Service
Pesticide Use Proposal
PUP #: R4-07-43550-02

Pesticide Usage Reporting

It is the policy of the U.S. Fish and Wildlife Service to report all pesticide usage. After pesticide application, please submit pesticide usage to the appropriate U.S. Fish and Wildlife office. Regions should include this information in their reporting system (use of this form is not necessary). Please call (703) 358-2148 if you have any questions.

PUP #:
Pesticide Applicator(s) Name, Company, and Contact Number:
Location of Pesticide Application (latitude/longitude; township/range). Attach Map if Available.
Trade Name(s) and EPA Reg. Number(s) of Pesticide(s) Applied:
Common or Chemical Name(s) of Pesticides Applied:
Application Date(s):
Number of Applications:
Amount of Active Ingredient Used Per Acre:
Size of Treatment Area:
Target Pest(s) (common and genus/species names for each):
Was your integrated pest management goal(s) obtained using this pesticide? ☐ Yes ☐ No

U.S. Department of Interior
U.S. Fish and Wildlife Service
Pesticide Use Proposal
PUP #: R4-07-43550-02

What degree of control did you achieve for the target pest(s)?

Where any effects to non-target organisms observed?

☐ No ☐ Yes, please explain

APPENDIX VI – SECTION 7

INTRA-SERVICE SECTION 7 BIOLOGICAL EVALUATION FORM

Originating Person: **Mark Jamieson**
Telephone Number: **985-882-2031**
E-Mail: **mark_jamieson@fws.gov**
Date: **09/20/06**

PROJECT NAME: **Rickwood Fire Burned Area Rehabilitation Plan**

I. Service Program:
___ Ecological Services
___ Federal Aid
___ Clean Vessel Act
___ Coastal Wetlands
___ Endangered Species Section 6
___ Partners for Fish and Wildlife
___ Sport Fish Restoration
___ Wildlife Restoration
___ Fisheries
_**X**_ Refuges/Wildlife

II. State/Agency: **US FWS**

III. Station Name: **Big Branch Marsh National Wildlife Refuge**

IV. Description of Proposed Action: **Broadcast spray, aerial application, of herbicides between May 20 and June 30, 2007, to control invasive and woody species competition prior to planting of slash and longleaf seedlings. Site preparation burning between August 1 and December 31, 2007, to reduce fuels and open up the site for planting. Plant pine seedlings, between January 1 and March 31, 2008, to restore habitat for Red-cockaded Woodpecker. See Burned Area Rehabilitation Plan, attached above.**

V. Pertinent Species and Habitat:

A. Include species/habitat occurrence map: **see map Appendix III of Rehab Plan above**.

B. Complete the following table:

SPECIES/CRITICAL HABITAT	STATUS[1]
Red-cockaded Woodpecker	**Endangered**

[1]STATUS: E=endangered, T=threatened, PE=proposed endangered, PT=proposed threatened,

CH=critical habitat, PCH=proposed critical habitat, C=candidate species, S/A=Similar Appearance

VI. Location (attach map): **see attached map above in Appendix III.**

A. Ecoregion Number and Name:

B. County and State: **St Tammany Parish, Louisiana**

C. Section, township, and range (or latitude and longitude): **N30.25, W-89.80**

D. Distance (miles) and direction to nearest town: **less than 1 mile west of Slidell, LA**

E**.** Species/habitat occurrence: **Red-cockaded Woodpecker Habitat/ Slash Pine Forest**

VII. Determination of Effects:

A. Explanation of effects of the action on species and critical habitats in item V. B:

SPECIES/ CRITICAL HABITAT	IMPACTS TO SPECIES/CRITICAL HABITAT
Red-cockaded Woodpecker Habitat	**Potential Impact-nest disturbance during nesting season, nest tree mortality due to fire intensity.**

B. Explanation of actions to be implemented to reduce adverse effects:

SPECIES/ CRITICAL HABITAT	ACTIONS TO MITIGATE/MINIMIZE IMPACTS
Red-cockaded Woodpecker Habitat	**Aerial Application of Herbicides: Spray when winds are under 5mph and weather conditions are for dry forecast for at least one-half day. Protect any live insert trees from spray. Spray after nesting season.** **Site Preparation Burn: Protect any remaining live insert trees by; 1. Rake to mineral soil 8 to 10 feet in circumference around nest trees. 2. Remove all ladder fuels within 50 foot radius of nest trees. 3. Light backing fire around nest tree to reduce fire intensity. 4. Limit use of heavy equipment around nest trees.** **Tree Planting: Hand plant so heavy equipment will not be used around any remaining live insert trees. Plant before nesting season.**

VIII. Effect Determination and Response Requested:

SPECIES/CRITICAL HABITAT	DETERMINATION[1]			REQUESTED
	NE	NA	AA	
Red-cockaded Woodpecker Habitat		**NA**		**Concurrence**

[1]DETERMINATION/ RESPONSE REQUESTED:
NE = no effect. This determination is appropriate when the proposed action will not directly, indirectly, or cumulatively impact, either positively or negatively, any listed, proposed, candidate species or designated/proposed critical habitat. Response Requested is optional but a "Concurrence" is recommended for a complete Administrative Record.

NA = not likely to adversely affect. This determination is appropriate when the proposed action is not likely to adversely impact any listed, proposed, candidate species or designated/proposed critical habitat or there may be beneficial effects to these resources. Response Requested is a" Concurrence".

AA = likely to adversely affect. This determination is appropriate when the proposed action is likely to adversely impact any listed, proposed, candidate species or designated/proposed critical habitat. Response Requested for listed species is "Formal Consultation". Response requested for proposed and candidate species is "Conference".

_____ _____

Signature (originating station) **Date**

_____

Title

IX. Reviewing Ecological Services Office Evaluation:

A. Concurrence _____ Nonconcurrence _____

B. Formal consultation required _____

C. Conference required _____

D. Informal conference required _____

E. Remarks (attach additional pages as needed):

_____ _____

Signature Date

_____ _____

Title Office

APPENDIX VII - REFERENCES

Department of Interior. 2006. Draft Interagency Burned Area Rehabilitation Guidebook.

US Fish and Wildlife Service. 2005. Burned Area Rehabilitation Plan. Old Dummy Fire. Kanuti National Wildlife Refuge.

US Fish and Wildlife Service. 2006. Draft Fire Management Plan. Big Branch Marsh NWR.

US Fish and Wildlife Service. 2006. Burned Area Rehabilitation Plan. Mollicy Warren Fire. Upper Ouachita NWR.

US Fish and Wildlife Service. 2006. Preliminary Final Technical Guide for the Treatment of Invasive Plants on Fire-affected National Wildlife Refuges in Alaska.

US Fish and Wildlife Service. 1985. Red-cockaded Woodpecker Recovery Plan. Atlanta, GA.